

```

yiaX2  MNITSNSTTKD--IPRQRWLRIIPPILITCIISYMDRVNIAFAMPGGMDA
prmA    MQ-----KSQPGTRWFRIIVPILIIACIMSFMDRVNISFALPGGMEQ
PE6     MNTASVSVTQSQAIPKLRWLRIVPPILITCIISYMDRVNIAFAMPGGMDD
PK1     MNSST-----N-ATKRWWYIMPVIFITYSLAYLDRANFSFASAAGITE
prmB    MNTSR-----KLPVKRWWYLMPIVIFITYSLAYLDRANYGFAAASGIEA
PE1     MNSST-----N-ATKRWWYIMPVIFITYSLAYLDRANFSFASAAGITE
        * . . . . . * . . . . . * . . . . .

yiaX2  DLGISATMAGLAGGIFFIGYLFLOVPGGKIAVHSGGKFIGWSLVAVAVI
prmA    DLLMSSQMAGVVSGIFFIGYLFLOVPGGKIAVRGSGKRFAWSLVAVAVV
PE6     ELGITASMAGLAGGIFFIGYLFLOVPGGKLAVYGNGKFIGWSLLAWAVI
PK1     DLGITKGISLLGALFFLGYYFFQIPGAIYAERRSVRKLIFICLILWGAC
prmB    DLGISRGTSLLIGALFFLGYYFIFQVPGAIYAVKRSVRKLVFTSLLLWGFC
PE1     DLGITKGISLLGALFFLGYYFFQIPGAIYAERRSVRKLIFICLILWGAC
        * . . . . . * . . . . . * . . . . .

yiaX2  SVLT-GLITNQYQLLALRFLLGVAEGGMLPVVLTMISNWFPAERGRANA
prmA    SVAT-GFVTHQYQLLILRFALGVSEGGMLPVVLTMVSNWFPEKELGRANA
PE6     SVLT-GLVTNQYQLLFLRFALGRFRSGMLRWVLTMISNWFPAERGRANA
PK1     ASLDRDGAQYSRAGRAIRFILGVVEAAVMPAMLIYISNWFTKSERSRANT
prmB    AA-ATGLISNIPALMVIRFVLGVVEAAVMPAMLIYISNWFTRQERSRANT
PE1     ASLDRDGAQYSSAGWRSVLFSAVVEAAVMPAMLIYISNWFTKSERSRANT
        . . . . . * . . . . . * . . . . .

yiaX2  IVIMFVPIAGIITAPLSGWIITVLDWRWLFIEGLLSLVVLVWLWAYTIYD
prmA    FVMMFAPLGGMITAPVSGWIIALLDWRWLFIEGLLSVVVLAVWWLMVSD
PE6     IVIMFVPIAGIITAPLSGWIITAWDWRMLFLVEGALS LVVMVLWYFTISN
PK1     FLILGNPVTVLWMSVSVSGYLIQAFGWREMFIEGVPALIAWAFWVVLVKD
prmB    FLVLGNPVTVLWMSIVSGYLINAFGWREMFIFEGVPALIAWAFWVVFIVRD
PE1     FLILGNPVTVLWMSVSVSGYLIQSFGWREMFIEGVPALIAWAFWVVLVKV
        .... * . . . . * . . . . * . . . . *

yiaX2  RPQEARWISEAEKRYLVETLAAEQKAIAG-TEVKNASLSAVLSDKTMWQL
prmA    RPEDARWLPAAEREYLLREMARDKAERSKLPPISHAPLQEVFHNPLMKL
PE6     RPQEAKRISQAEKDYLKTLHDEQLLIK-KTVRNASLRRVLGDKIMWK-
PK1     KPSQVNWLAESEKAALQEQLEREQQGIKPVRNYGEA-----FRSRNVVLL
prmB    KPEQVSWLTETEKQQLASAMAEQQQAIPPMRNVPOA-----LRSRNVVVL
PE1     KPSQVNWLSSENEKAALQAQLESEQQGIKAVRNYGEA-----FRSRNVILL
        * . . . . * . . . . * . . . . *

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FIG. 1A

Fermentative Production of 2-KLG

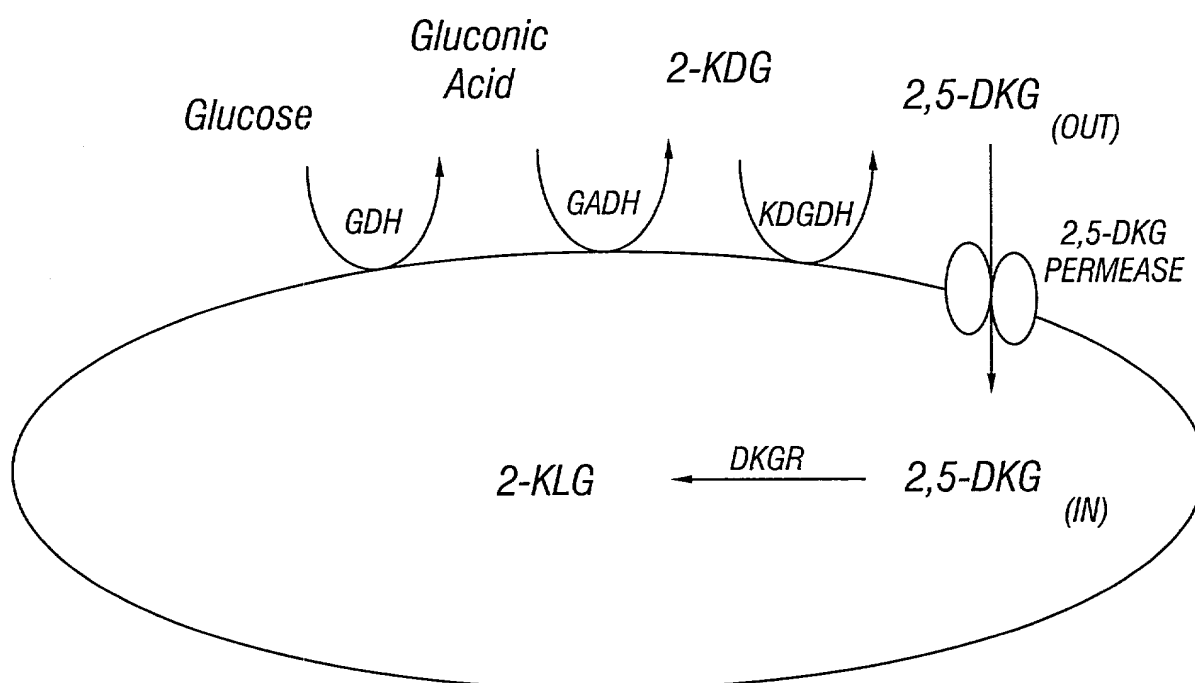


FIG. 2

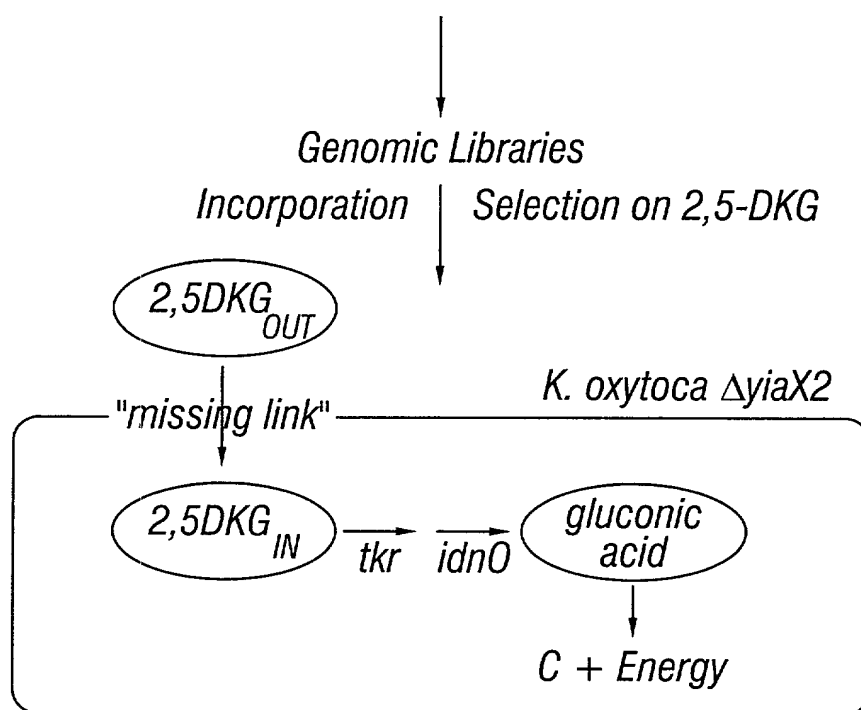


FIG. 3